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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,551	12/28/2000	Jingyu Lian	00 P 9119 US	9195

7590 02/24/2003

SLATER & MATSIL, L.L.P.  
17950 PRESTON ROAD  
SUITE 1000  
DALLAS, TX 75252-5793

EXAMINER

ORTIZ, EDGARDO

ART UNIT PAPER NUMBER

2815

DATE MAILED: 02/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action**Application No.  
**09/751,551**Applicant(s)  
**Lian Et.al.**Examiner  
**Edgardo Ortiz**Art Unit  
**2815**

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED Feb 3, 2002 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid the abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

THE PERIOD FOR REPLY [check only a) or b)]

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.
- b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see NOTE below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_

3. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_
4. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See Continuation Sheet
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
- The status of the claim(s) is (or will be) as follows:
- Claim(s) allowed: \_\_\_\_\_
- Claim(s) objected to: \_\_\_\_\_
- Claim(s) rejected: 1-13 and 21-30
- Claim(s) withdrawn from consideration: \_\_\_\_\_
8. ☐ The proposed drawing correction filed on \_\_\_\_\_ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_
10. ☐ Other: \_\_\_\_\_

  
**EDDIE LEE****SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800**

**Continuation Sheet:**  
**Serial Number: 09/751,551**

Applicant's arguments have been fully considered, but are not deemed persuasive. First, Applicant argues regarding the rejection of claim 1 and its dependent claims that "neither reference teaches or suggests a single electrode with a conductive layer and a first conductive liner of the same material" and that "Applicants respectfully submit that it would not be obvious to combine the two". The examiner disagrees and notes that, as clearly stated in the final rejection, Applicant's admitted prior art teaches a conductive barrier layer (122), a first conductive liner (132) deposited over the conductive barrier layer and a second conductive liner (134) deposited over the first conductive liner, the second conductive liner comprising a conductive oxide and a conductive layer (124) deposited on the second conductive liner and that Kotecki teaches a DRAM structure which includes a conductive barrier layer (TaSiN), a first conductive liner (Pt), a dielectric layer (BSTO) and a conductive layer (Pt) deposited over the dielectric layer, wherein the conductive layer and the first conductive liner comprise the same material, in this case Pt. The motivation to combine the references is also clearly stated to be, in order to provide electrodes with good adhesion and improve the electrical conductivity characteristics of the electrode, by the use of platinum group metals such as platinum and iridium.

Applicant further argues regarding the rejection of claims 8 and 28 and their dependent claims that "neither reference teaches a first conductive liner comprising a molecular grain structure having a plurality of columns, a conductive layer comprising a molecular grain structure having a plurality of columns, wherein the columns of the conductive layer are not aligned with the columns of the first conductive liner". The examiner notes that Kotecki teaches a first conductive liner (Pt), a dielectric layer (BSTO) and a conductive layer (Pt) deposited over the dielectric layer, wherein the first conductive liner and the conductive layer can be deposited by a physical vapor deposition (PVD) process and as known in the semiconductor art, both first conductive liner and conductive layer would have molecular grain structure having a plurality of columns. Therefore, Kotecki clearly suggests a first conductive liner and a conductive layer having a molecular grain structure comprising columns, wherein the columns are not aligned, since Pt and Ir are different elements but from the same platinum metals group.

Lastly, Applicant argues regarding the rejection of claim 30 and its dependent claims, referring to the thickness of the second conductive liner that "a thickness of this amount would not be obvious". As stated in the final rejection, it would have been an obvious modification to someone with ordinary skill in the art to modify the structure as taught by Applicant's admitted prior art to include a thickness of the second conductive layer as claimed, in order to reduce the number of process steps during an etching process.